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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,649

09/27/2006

Graeme Alexander

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05/04/2012

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EXAMINER

NGUYEN, HAIDUNG D

ART UNIT

PAPER NUMBER

1761

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,649	ALEXANDER ET AL.	
	Examiner	Art Unit	
	HAIDUNG NGUYEN	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1,3,5-17,19-29 and 33-36 is/are pending in the application.
- 5a) Of the above claim(s) 19-26 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1, 3, 5-17, 27-29 and 33-36 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. This action is responsive to applicant's amendment filed 5/24/2010 and 11/14/2011.
2. Previous rejections under 35 USC 103(a) for obviousness over Romenesko in view of von Bonin and Vexler have been withdrawn in view of applicant's amendments.
3. Claims 1, 3, 5-17, 19-29 and 33-36 are pending.
4. Applicant's election with traverse of Group I in the reply filed on 11/14/2011 is acknowledged. The traversal is on the ground(s) that the requirement is improper because the respective fields of search are closely related; thus, there would be no undue burden imposed by the examination of the claims of Group I together with the claims of Group II. This is not found persuasive because under PCT Rule 13.1 because, under PCT Rule 13.2, the inventions listed as Groups I and II do not relate to a single general inventive concept; they lack the same or corresponding special technical features for the following reasons:

Groups I and II lack unity of invention because even though the inventions of these groups require the technical feature of a ceramifying composition as recited in claim 1, this technical feature is not a special technical feature as it does not make a contribution over the prior art in view of Graf et al (US 5,126,076). See Example 3.

Claims 19-26 of Group II have been amended to depend on claim 1 (Group I). However, even though the preamble of claims 19-26 was amended to direct to a composition, the body of the claims still draws to an article (cable). Therefore, the restriction between Group I and Group II are maintained.

The requirement is still deemed proper and is therefore made FINAL.

5. Claims 19-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Group II, there being no allowable generic or linking claim.
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.
7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1, 3, 5-17, 27-29 and 33-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites "wherein the composition is essentially free of charring agents which together with said inorganic phosphate provide intumescence" in lines 11-12. This recitation was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The mere absence of a positive recitation is not basis for an exclusion. Any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Note that a lack of literal basis in the specification for a negative limitation may not be sufficient to establish a prima facie case for lack of descriptive support. *Ex parte Parks*, 30 USPQ2d 1234, 1236 (Bd. Pat. App. & Inter. 1993). See MPEP § 2163 - § 2163.07(b) for a discussion of the written description requirement of 35 U.S.C. 112, first paragraph.

Claim 1 is also rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "essentially free" in claim 1 is a relative term which renders the claim indefinite. The metes and bounds of this term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 3, 5-17, 27-29 and 33-36 are also rejected as being depended on rejected claims.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 3, 5-10, 12-16, 27-29, 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Graf et al. (US 5,126,076).

Graf discloses a composition comprising: (i) at least 10% by weight of silicate mineral filler (alumino silicate); (ii) from 8% to 40% by weight of at least one inorganic phosphate selected from ammonium phosphate, ammonium polyphosphate and ammonium pyrophosphate (ammonium polyphosphate); and (iii) at least 15% by weight based on the total weight of the composition of a polymer base composition comprising at least 50% by weight of an organic polymer (polyester fleece, phenolic resin), up to 20% by weight of additional inorganic filler selected from the group consisting of oxides, hydroxides and carbonates of aluminum, magnesium and calcium (Example 2, col 5, ln 63 to col 6, ln 8). The composition of Graf contain an amount of at least 70% by weight of inorganic components based on the total weight of the composition and does not contain charring agents such as pentaerythritol or carbohydrates (col 5, ln 6-8).

Graf does not disclose the composition forms a self- supporting ceramic on exposure to an elevated temperature experienced under fire conditions that undergoes less than a 20% change in linear dimensions along its length or does Graf disclose a rectangular test specimen of the composition has a flexural strength of at least 0.3 MPa

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on exposure to an elevated temperature experienced under fire conditions or the flexural strength is at least 2 MPa on exposure to an elevated temperature experienced under fire conditions as required by claims 27-29. However, the composition of Graf is the same as or substantially similar that set forth by applicants. Therefore, the composition of prior art would possess the same properties as claimed. "Product of identical chemical composition cannot have mutually exclusive properties". A chemical composition and its properties are inseparable. If the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655, (Fed. Cir. 1990). See also *In re Best*, 562 F.2d 1252, 195 USPQ 430, (CCPA 1977).

Claim Rejections - 35 USC § 103

12. Claims 1, 3, 5-14, 16, 17, 27-29, 33, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abu-Isa (US 7,378,463)

Regarding claims 1, 3, 5-8, 12-14, 16, 17, 27-29, 33, 34 and 36, Abu-Isa discloses a composition comprising: (i) 43 wt% of organic polymer comprises at least one polymer selected from the group consisting of thermoplastic and crosslinked polyethylenes and copolymers and blends thereof, having a density in the range of from 890 to 960 g/l (Fortiflex T50-2000, Exact 0210), 17 wt% of ammonia polyphosphate (FR Cros 484), 8 wt% of reinforcing agent and 22 wt% of magnesium hydroxide (Magshield). The composition of Abu-Isa contain an amount of at least 40% by weight of inorganic components based on the total weight of the composition and does not contain charring

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agents such as pentaerythritol or carbohydrates (See Table 1, Formulation 1, col 8, In 25-35).

Abu-Isa discloses the composition can contain up to 15 wt% of the reinforcing agent including silicate mineral filler (mica, abstract, col 11, In 60-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute up to 15 wt% mica as the reinforcing agent in formulating the Formulation 1 of Abu-Isa and the result would have been expected.

Abu-Isa does not disclose the composition forms a self- supporting ceramic on exposure to an elevated temperature experienced under fire conditions that undergoes less than a 20% change in linear dimensions along its length or does Abu-Isa disclose a rectangular test specimen of the composition has a flexural strength of at least 0.3 MPa on exposure to an elevated temperature experienced under fire conditions or the flexural strength is at least 2 MPa on exposure to an elevated temperature experienced under fire conditions as required by claims 27-29. However, the composition of Abu-Isa is the same as or substantially similar that set forth by applicants. Therefore, the composition of prior art would possess the same properties as claimed. "Product of identical chemical composition cannot have mutually exclusive properties". A chemical composition and its properties are inseparable. If the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 15 USPQ2d 1655, (Fed. Cir. 1990). See also In re Best, 562 F.2d 1252, 195 USPQ 430, (CCPA 1977).

Regarding claims 9-11, Abu-Isa discloses the composition comprises 5-25 wt% of nitrogenous gas-generating agent including ammonium phosphates, ammonium polyphosphates, ammonium pyrophosphates, 10-30 wt % of water vapor-generating agent including hydrated magnesia, hydrated alumina, intercalated graphite, and up to 15 wt % of a reinforcing agent including glass fibers, mica, and titanium oxide. Abu-Isa does not expressly disclose that the ammonium polyphosphate is presented in amount of from 20 wt % to 40wt % or these inorganic components together presented in amount of at least 60 or 70 wt% as claimed in claims 9, 10 and 11. However, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results, see *In re Aller*, et al., 105 USPQ 233.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graf et al. (US 5,126,076).

Graf discloses a composition as described above but does not expressly disclose ammonium polyphosphate is presented in amount of from 20 to 40 wt% as claimed.

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However, Graf discloses that the flame proofing agent, which includes ammonium polyphosphate, is preferably in the range of 7.5 to 30 wt% (col 5, ln 8-10). This range is overlapping the claimed range. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103, *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Mulagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). Furthermore, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results, see *In re Aller*, et al., 105 USPQ 233.

14. Claims 15 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abu-Isa (US 7,378,463) as applied above, in view of Graf et al (US 5,126,076).

Abu-Isa does not disclose the inorganic filler comprises calcium carbonate which is present in an amount of from 5 to 20 wt% of the composition.

Graf discloses the inorganic filler comprises calcium carbonate which is present in an amount of from 5 to 20 wt% of the composition (example 2, col 5, ln 67-68). Graf discloses that a composition contains calcium carbonate within the range together with ammonium phosphate and silicate filler possess the low-flammability (col 2, ln 1-4).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to substitute magnesium hydroxide in the composition of Abu-Isa

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with calcium carbonate or add calcium carbonate to the composition of Abu-Isa, in order to provide compositions having the low-flammability as suggested by Graf (col 2, ln 1-4).

Response to Arguments

15. Applicant's arguments filed 5/24/2010 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAIDUNG NGUYEN whose telephone number is (571)270-5455. The examiner can normally be reached on M-Th: 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Haidung D Nguyen/
Examiner, Art Unit 1761

4/30/2012

/Mark Kopec/
Primary Examiner, Art Unit 1761